Validated By CRFValidator v 1.0.3

Application No: 10784528 Version No: 2.0

Input Set:

Output Set:

Started: 2007-10-02 19:27:38.417
Finished: 2007-10-02 19:27:39.130
Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 713 ms
Total Warnings: 2
Total Errors: 0
No. of SeqIDs Defined: 10
Actual SeqID Count: 10

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)

SEQUENCE LISTING

<110> BROWN, ARTHUR M.
WIBLE, BARBARA A.

<120> METHODS OF INDUCING APOPTOSIS IN HYPERPROLIFERATION CELLS

<130> 22884/04085

<140> 10784528
<141> 2004-02-23

<150> 10/000,778
<151> 2001-10-31

<160> 10

<170> PatentIn Ver. 3.3

<210> 1
<211> 1725
<212> DNA
<213> Homo sapiens

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<221> CDS
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<400> 1

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  1               5                  10                  15

ggg ccc tct gat ctc tcc ctt ctc tct ttg ccc cct ggc acc tct cct   96
Gly Pro Ser Asp Leu Ser Leu Leu Ser Leu Pro Pro Gly Thr Ser Pro
             20                  25                  30

gta ggc tcc cct ggt cct cta gct ccc att ccc cca acg ctg ttg gcc   144
Val Gly Ser Pro Gly Pro Leu Ala Pro Ile Pro Pro Thr Leu Leu Ala
         35                  40                  45

cct ggc acc ctg ctg ggc ccc aag cgt gag gtg gac atg cac ccc cct   192
Pro Gly Thr Leu Leu Gly Pro Lys Arg Glu Val Asp Met His Pro Pro
     50                  55                  60

ctg ccc cag cct gtg cac cct gat gtc acc atg aaa cca ttg ccc ttc   240
Leu Pro Gln Pro Val His Pro Asp Val Thr Met Lys Pro Leu Pro Phe
 65                  70                  75                  80

tat gaa gtc tat ggg gag ctc atc cgg ccc acc acc ctt gca tcc act   288
Tyr Glu Val Tyr Gly Glu Leu Ile Arg Pro Thr Thr Leu Ala Ser Thr
                 85                  90                  95

tct agc cag cgg ttt gag gaa gcg cac ttt acc ttt gcc ctc aca ccc   336
Ser Ser Gln Arg Phe Glu Glu Ala His Phe Thr Phe Ala Leu Thr Pro
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            100                 105                 110

cag caa gtg cag cag att ctt aca tcc aga gag gtt ctg cca gga gcc   384
Gln Gln Val Gln Gln Ile Leu Thr Ser Arg Glu Val Leu Pro Gly Ala
        115                 120                 125

aaa tgt gat tat acc ata cag gtg cag cta agg ttc tgt ctc tgt gag   432
Lys Cys Asp Tyr Thr Ile Gln Val Gln Leu Arg Phe Cys Leu Cys Glu
    130                 135                 140

acc agc tgc ccc cag gaa gat tat ttt ccc ccc aac ctc ttt gtc aag   480
Thr Ser Cys Pro Gln Glu Asp Tyr Phe Pro Pro Asn Leu Phe Val Lys
145                 150                 155                 160

gtt aat ggg aaa ctg tgc ccc ctg ccg ggt tac ctt ccc cca acc aag   528
Val Asn Gly Lys Leu Cys Pro Leu Pro Gly Tyr Leu Pro Pro Thr Lys
                165                 170                 175

aat ggg gcc gag ccc aag agg ccc agc cgc ccc atc aac atc aca ccc   576
Asn Gly Ala Glu Pro Lys Arg Pro Ser Arg Pro Ile Asn Ile Thr Pro
            180                 185                 190

ctg gct cga ctc tca gcc act gtt ccc aac acc att gtg gtc aat tgg   624
Leu Ala Arg Leu Ser Ala Thr Val Pro Asn Thr Ile Val Val Asn Trp
        195                 200                 205

tca tct gag ttc gga cgg aat tac tcc ttg tct gtg tac ctg gtg agg   672
Ser Ser Glu Phe Gly Arg Asn Tyr Ser Leu Ser Val Tyr Leu Val Arg
    210                 215                 220

cag ttg act gca gga acc ctt cta caa aaa ctc aga gca aag ggt atc   720
Gln Leu Thr Ala Gly Thr Leu Leu Gln Lys Leu Arg Ala Lys Gly Ile
225                 230                 235                 240

cgg aac cca gac cac tcg cgg gca ctg atc aag gag aaa ttg act gct   768
Arg Asn Pro Asp His Ser Arg Ala Leu Ile Lys Glu Lys Leu Thr Ala
                245                 250                 255

gac cct gac agt gag gtg gcc act aca agt ctc cgg gtg tca ctc atg   816
Asp Pro Asp Ser Glu Val Ala Thr Thr Ser Leu Arg Val Ser Leu Met
            260                 265                 270

tgc ccg cta ggg aag atg cgc ctg act gtc cct tgt cgt gcc ctc acc   864
Cys Pro Leu Gly Lys Met Arg Leu Thr Val Pro Cys Arg Ala Leu Thr
        275                 280                 285

tgt gcc cac ctg cag agc ttc gat gct gcc ctt tat cta cag atg aat   912
Cys Ala His Leu Gln Ser Phe Asp Ala Ala Leu Tyr Leu Gln Met Asn
    290                 295                 300

gag aag aag cct aca tgg aca tgt cct gtg tgt gac aag aag gct ccc   960
Glu Lys Lys Pro Thr Trp Thr Cys Pro Val Cys Asp Lys Lys Ala Pro
305                 310                 315                 320

tat gaa tct ctt atc att gat ggt tta ttt atg gag att ctt agt tcc   1008
Tyr Glu Ser Leu Ile Ile Asp Gly Leu Phe Met Glu Ile Leu Ser Ser
                325                 330                 335
```

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tgt tca gat tgt gat gag atc caa ttc atg gaa gat gga tcc tgg tgc   1056
Cys Ser Asp Cys Asp Glu Ile Gln Phe Met Glu Asp Gly Ser Trp Cys
            340                 345                 350

cca atg aaa ccc aag aag gag gca tct gag gtt tgc ccc ccg cca ggg   1104
Pro Met Lys Pro Lys Lys Glu Ala Ser Glu Val Cys Pro Pro Pro Gly
        355                 360                 365

tat ggg ctg gat ggc ctc cag tac agc cca gtc cag ggg gga gat cca   1152
Tyr Gly Leu Asp Gly Leu Gln Tyr Ser Pro Val Gln Gly Gly Asp Pro
    370                 375                 380

tca gag aat aag aag aag gtc gaa gtt att gac ttg aca ata gaa agc   1200
Ser Glu Asn Lys Lys Lys Val Glu Val Ile Asp Leu Thr Ile Glu Ser
385                 390                 395                 400

tca tca gat gag gag gat ctg ccc cct acc aag aag cac tgt tct gtc   1248
Ser Ser Asp Glu Glu Asp Leu Pro Pro Thr Lys Lys His Cys Ser Val
                405                 410                 415

acc tca gct gcc atc ccg gcc cta cct gga agc aaa gga gtc ctg aca   1296
Thr Ser Ala Ala Ile Pro Ala Leu Pro Gly Ser Lys Gly Val Leu Thr
            420                 425                 430

tct ggc cac cag cca tcc tcg gtg cta agg agc cct gct atg ggc acg   1344
Ser Gly His Gln Pro Ser Ser Val Leu Arg Ser Pro Ala Met Gly Thr
        435                 440                 445

ttg ggt ggg gat ttc ctg tcc agt ctc cca cta cat gag tac cca cct   1392
Leu Gly Gly Asp Phe Leu Ser Ser Leu Pro Leu His Glu Tyr Pro Pro
    450                 455                 460

gcc ttc cca ctg gga gcc gac atc caa ggt tta gat tta ttt tca ttt   1440
Ala Phe Pro Leu Gly Ala Asp Ile Gln Gly Leu Asp Leu Phe Ser Phe
465                 470                 475                 480

ctt cag aca gag agt cag cac tat ggc ccc tct gtc atc acc tca cta   1488
Leu Gln Thr Glu Ser Gln His Tyr Gly Pro Ser Val Ile Thr Ser Leu
                485                 490                 495

gat gaa cag gat gcc ctt ggc cac ttc ttc cag tac cga ggg acc cct   1536
Asp Glu Gln Asp Ala Leu Gly His Phe Phe Gln Tyr Arg Gly Thr Pro
            500                 505                 510

tct cac ttt ctg ggc cca ctg gcc ccc acg ctg ggg agc tcc cac tgc   1584
Ser His Phe Leu Gly Pro Leu Ala Pro Thr Leu Gly Ser Ser His Cys
        515                 520                 525

agc gcc act ccg gcg ccc cct cct ggc cgt gtc agc agc att gtg gcc   1632
Ser Ala Thr Pro Ala Pro Pro Pro Gly Arg Val Ser Ser Ile Val Ala
    530                 535                 540

cct ggg ggg gcc ttg agg gag ggg cat gga gga ccc ctg ccc tca ggt   1680
Pro Gly Gly Ala Leu Arg Glu Gly His Gly Gly Pro Leu Pro Ser Gly
545                 550                 555                 560
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ccc tct ttg act ggc tgt cgg tca gac atc att tcc ctg gac tga       1725
Pro Ser Leu Thr Gly Cys Arg Ser Asp Ile Ile Ser Leu Asp
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<211> 574
<212> PRT
<213> Homo sapiens

<400> 2

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Met Lys Ile Lys Glu Leu Tyr Arg Arg Arg Phe Pro Arg Lys Thr Leu
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Gly Pro Ser Asp Leu Ser Leu Leu Ser Leu Pro Pro Gly Thr Ser Pro
             20                  25                  30

Val Gly Ser Pro Gly Pro Leu Ala Pro Ile Pro Pro Thr Leu Leu Ala
         35                  40                  45

Pro Gly Thr Leu Leu Gly Pro Lys Arg Glu Val Asp Met His Pro Pro
     50                  55                  60

Leu Pro Gln Pro Val His Pro Asp Val Thr Met Lys Pro Leu Pro Phe
 65                  70                  75                  80

Tyr Glu Val Tyr Gly Glu Leu Ile Arg Pro Thr Thr Leu Ala Ser Thr
                 85                  90                  95

Ser Ser Gln Arg Phe Glu Glu Ala His Phe Thr Phe Ala Leu Thr Pro
            100                 105                 110

Gln Gln Val Gln Gln Ile Leu Thr Ser Arg Glu Val Leu Pro Gly Ala
        115                 120                 125

Lys Cys Asp Tyr Thr Ile Gln Val Gln Leu Arg Phe Cys Leu Cys Glu
    130                 135                 140

Thr Ser Cys Pro Gln Glu Asp Tyr Phe Pro Pro Asn Leu Phe Val Lys
145                 150                 155                 160

Val Asn Gly Lys Leu Cys Pro Leu Pro Gly Tyr Leu Pro Pro Thr Lys
                165                 170                 175

Asn Gly Ala Glu Pro Lys Arg Pro Ser Arg Pro Ile Asn Ile Thr Pro
            180                 185                 190

Leu Ala Arg Leu Ser Ala Thr Val Pro Asn Thr Ile Val Val Asn Trp
        195                 200                 205

Ser Ser Glu Phe Gly Arg Asn Tyr Ser Leu Ser Val Tyr Leu Val Arg
    210                 215                 220

Gln Leu Thr Ala Gly Thr Leu Leu Gln Lys Leu Arg Ala Lys Gly Ile
225                 230                 235                 240

Arg Asn Pro Asp His Ser Arg Ala Leu Ile Lys Glu Lys Leu Thr Ala
```

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                245                 250                 255

Asp Pro Asp Ser Glu Val Ala Thr Thr Ser Leu Arg Val Ser Leu Met
            260                 265                 270

Cys Pro Leu Gly Lys Met Arg Leu Thr Val Pro Cys Arg Ala Leu Thr
        275                 280                 285

Cys Ala His Leu Gln Ser Phe Asp Ala Ala Leu Tyr Leu Gln Met Asn
    290                 295                 300

Glu Lys Lys Pro Thr Trp Thr Cys Pro Val Cys Asp Lys Lys Ala Pro
305                 310                 315                 320

Tyr Glu Ser Leu Ile Ile Asp Gly Leu Phe Met Glu Ile Leu Ser Ser
                325                 330                 335

Cys Ser Asp Cys Asp Glu Ile Gln Phe Met Glu Asp Gly Ser Trp Cys
            340                 345                 350

Pro Met Lys Pro Lys Lys Glu Ala Ser Glu Val Cys Pro Pro Pro Gly
        355                 360                 365

Tyr Gly Leu Asp Gly Leu Gln Tyr Ser Pro Val Gln Gly Gly Asp Pro
    370                 375                 380

Ser Glu Asn Lys Lys Lys Val Glu Val Ile Asp Leu Thr Ile Glu Ser
385                 390                 395                 400

Ser Ser Asp Glu Glu Asp Leu Pro Pro Thr Lys Lys His Cys Ser Val
                405                 410                 415

Thr Ser Ala Ala Ile Pro Ala Leu Pro Gly Ser Lys Gly Val Leu Thr
            420                 425                 430

Ser Gly His Gln Pro Ser Ser Val Leu Arg Ser Pro Ala Met Gly Thr
        435                 440                 445

Leu Gly Gly Asp Phe Leu Ser Ser Leu Pro Leu His Glu Tyr Pro Pro
    450                 455                 460

Ala Phe Pro Leu Gly Ala Asp Ile Gln Gly Leu Asp Leu Phe Ser Phe
465                 470                 475                 480

Leu Gln Thr Glu Ser Gln His Tyr Gly Pro Ser Val Ile Thr Ser Leu
                485                 490                 495

Asp Glu Gln Asp Ala Leu Gly His Phe Phe Gln Tyr Arg Gly Thr Pro
            500                 505                 510

Ser His Phe Leu Gly Pro Leu Ala Pro Thr Leu Gly Ser Ser His Cys
        515                 520                 525

Ser Ala Thr Pro Ala Pro Pro Pro Gly Arg Val Ser Ser Ile Val Ala
    530                 535                 540

Pro Gly Gly Ala Leu Arg Glu Gly His Gly Gly Pro Leu Pro Ser Gly
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545 550 555 560

Pro Ser Leu Thr Gly Cys Arg Ser Asp Ile Ile Ser Leu Asp
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<213> Artificial Sequence

<220>
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Thr Leu Leu Gly Pro Lys Arg Glu Val Asp Met His
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<210> 4
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<212> PRT
<213> Artificial Sequence

<220>
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Asp Glu Val Asp
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<210> 5
<211> 650
<212> PRT
<213> Homo sapiens

<400> 5
Met Ala Asp Ser Ala Glu Leu Lys Gln Met Val Met Ser Leu Arg Val
1 5 10 15

Ser Glu Leu Gln Val Leu Leu Gly Tyr Ala Gly Arg Asn Lys His Gly
20 25 30

Arg Lys His Glu Leu Leu Thr Lys Ala Leu His Leu Leu Lys Ala Gly
35 40 45

Cys Ser Pro Ala Val Gln Met Lys Ile Lys Glu Leu Tyr Arg Arg Arg
50 55 60

Phe Pro Gln Lys Ile Met Thr Pro Ala Asp Leu Ser Ile Pro Asn Val

```
 65                  70                  75                  80

His Ser Ser Pro Met Pro Ala Thr Leu Ser Pro Ser Thr Ile Pro Gln
                 85                  90                  95

Leu Thr Tyr Asp Gly His Pro Ala Ser Ser Pro Leu Leu Pro Val Ser
            100                 105                 110

Leu Leu Gly Pro Lys His Lys Leu Glu Leu Pro His Leu Thr Ser Ala
        115                 120                 125

Leu His Pro Val His Pro Asp Ile Lys Leu Gln Lys Leu Pro Phe Tyr
    130                 135                 140

Asp Leu Leu Asp Glu Leu Ile Lys Pro Thr Ser Leu Ala Ser Asp Asn
145                 150                 155                 160

Ser Gln Arg Phe Arg Glu Thr Cys Phe Ala Phe Ala Leu Thr Pro Gln
                165                 170                 175

Gln Val Gln Gln Ile Ser Ser Ser Met Asp Ile Ser Gly Thr Lys Cys
            180                 185                 190

Asp Phe Thr Val Gln Val Gln Leu Arg Phe Cys Leu Ser Glu Thr Ser
        195                 200                 205

Cys Pro Gln Glu Asp His Phe Pro Pro Asn Leu Cys Val Lys Val Asn
    210                 215                 220

Thr Lys Pro Cys Ser Leu Pro Gly Tyr Leu Pro Pro Thr Lys Asn Gly
225                 230                 235                 240

Val Glu Pro Lys Arg Pro Ser Arg Pro Ile Asn Ile Thr Ser Leu Val
                245                 250                 255

Arg Leu Ser Thr Thr Val Pro Asn Thr Met Cys Ser Trp Thr Ala Glu
            260                 265                 270

Ile Gly Arg Asn Tyr Ser Met Ala Val Tyr Leu Val Lys Gln Leu Ser
        275                 280                 285

Ser Thr Val Leu Leu Gln Arg Leu Arg Ala Lys Gly Ile Arg Asn Pro
    290                 295                 300

Asp His Ser Arg Ala Leu Ile Lys Glu Lys Leu Thr Ala Asp Pro Asp
305                 310                 315                 320

Ser Glu Ile Ala Thr Thr Ser Leu Arg Val Ser Leu Leu Cys Pro Leu
                325                 330                 335

Gly Lys Met Arg Leu Thr Ile Pro Cys Arg Ala Leu Thr Cys Ser His
            340                 345                 350

Leu Gln Cys Phe Asp Ala Thr Leu Tyr Ile Gln Met Asn Glu Lys Lys
        355                 360                 365

Pro Thr Trp Val Cys Pro Val Cys Asp Lys Lys Ala Pro Tyr Glu His
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    370                 375                 380

Leu Ile Ile Asp Gly Leu Phe Met Glu Ile Leu Lys Tyr Cys Thr Asp
385                 390                 395                 400

Cys Asp Glu Ile Gln Phe Lys Glu Asp Gly Thr Trp Ala Pro Met Arg
                405                 410                 415

Ser Lys Lys Glu Val Gln Glu Val Ser Ala Ser Tyr Asn Gly Val Asp
            420                 425                 430

Gly Cys Leu Ser Ser Thr Leu Glu His Gln Val Ala Ser His His Gln
        435                 440                 445

Ser Ser Asn Lys Asn Lys Lys Val Glu Val Ile Asp Leu Thr Ile Asp
    450                 455                 460

Ser Ser Ser Asp Glu Glu Glu Glu Glu Pro Ser Ala Lys Arg Thr Cys
465                 470                 475                 480

Pro Ser Leu Ser Pro Thr Ser Pro Leu Asn Asn Lys Gly Ile Leu Ser
                485                 490                 495

Leu Pro His Gln Ala Ser Pro Val Ser Arg Thr Pro Ser Leu Pro Ala
            500
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